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ABSTRACT

A study investigated the hypothesis that during the "silent" period of second language learning, in which there is a dramatic drop in language directed to speakers of the second language, children not only passively assimilate second language input but also use private speech to actively integrate it. The study examined the learning strategies evident in the private speech of the youngest children (aged 3 to 5 years) in a group of 9 and contrasted them with the learning strategies used by the older subjects (aged 6 to 8). All subjects were native speakers of Chinese, Japanese, or Korean. Greater contrast was found in the quantity and quality of the older children's private speech relative to their learning styles, either inner-directed or other-directed. (MSE)

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PRIVATE SPEECH:
SECOND LANGUAGE LEARNING DURING THE 'SILENT' PERIOD

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The considerable variation in children's second language learning strategies found in prior research by the writer (Saville-Troike, in press) appears to reflect basic differences in social and cognitive orientation which distinguish two fundamentally different types of learners. I have characterized these basic learner types as "inner-directed" versus "other-directed" (adopting terms from Riesman, 1950). The inner-directed learners approach language learning as an intrapersonal task, with a predominant focus on the language code. These are reflective children, who are ultimately likely to be among the most successful in second language achievement (Saville-Troike, 1984). They typically go through a period during which they do not initiate interaction with speakers of the new language, and largely refrain from overt social verbalization. The fact that the utterances of inner-directed learners in the second language may be relatively complex when they resume communicating clearly indicates there has been no major gap in the process of their linguistic development, but that it has "gone underground", so to speak.

On the basis of the observation that a number of the inner-directed learners frequently talked to themselves during this 'silent' period, it was hypothesized that they were not merely passively assimilating second language input, but were using private speech in an active process of engagement with the input data. Although there has been limited evidence of this process in prior research, which has focused on more readily observable social/interactive speech, I further hypothesized that recordings of naturally occurring private speech might provide a 'window' through which the process could be observed.

In this paper, the subjects and methods used in the present study will be described and the 'silent' period will be situated among the developmental phases of social speech. The nature of the private speech which was recorded will then be discussed. The data presented here are drawn primarily from the private speech of the younger children in the study, concentrating on utterances produced during the 'silent' period. The language learning strategies evidenced in their private speech are then contrasted with those of the older subjects.

The subjects used to test this hypothesis were nine children (3;3 to 8;3), who were native speakers of Chinese, Japanese, or Korean. All of the subjects were of a relatively homogeneous social status, children of foreign graduate students at the University of Illinois, and were enrolled in regular nursery and elementary school classes in the area. Table I lists the nine subjects from youngest to oldest, along with identification of their native language, age in years and months at the beginning of the study, and sex. The column at the right in this table indicates (with the entry "Yes") those children who went

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through a 'silent' period of some weeks, during which they engaged in virtually no verbal interaction with English speaking adults or peers and responded to them minimally or not at all. All but S5 had one or more native-language peers in the setting, although these constituted only a small minority in each class. None of the teachers observed was bilingual.

TABLE I
SUBJECTS

Ss	Language	Age	Sex	'Silent' Period
S1	Chinese	3;3	M	Yes
S2	Chinese	4;3	M	Yes
S3	Japanese	5;2	F	Yes
S4	Korean	5;3	M	Yes
S5	Korean	5;4	F	No
S6	Japanese	5;6	M	No
S7	Japanese	5;7	M	Yes
S8	Korean	6;4	F	No
S9	Chinese	8;3	F	Yes

In order to collect data on private speech, we used a wireless radio microphone system (RCA model WM001), with the microphone attached to the child's collar and the receiver plugged in to either a videocamera or an audio cassette recorder. Six of these subjects were videotaped at approximately weekly intervals in English-medium classrooms during the first six months they were exposed to English, beginning with the first week. Three subjects were initially observed without recording and then videotaped weekly beginning after the third week of school, continuing through the fall semester. Recorded sessions lasted from one to three hours each, for a total of 130 hours.

I am proposing that young second language learners go through three phases of social speech in the process of acquiring a second language, labeled here for convenience Phases I - III. During Phase I, some young children who have had no prior experience with speakers of another language continue to address English speakers in their native language, as in the following interactions (1 - 2) between a nursery school teacher [T] and the two Chinese boys in the study, S1 and S2:

1. S1: WODE XIE DAI JIU BA DIAOLE.
   ('My shoelace just came loose.')
   T: OH. YOUR SHOES ARE UNTIED. HERE YOU GO.
2. T: HAVE A STRAWBERRY?
   S2: ZHEIGE YAO BA DIAO CAI KEYI CHI.
   ('This must be taken out before we eat it.')
   T: TAKE THAT PART OUT. PINCH IT OFF.
   S2: ZHEIGE YAO BA DIAO.
   ('This must be taken out.')

The use of two mutually unintelligible languages by interactants who do not comprehend one another is what I have elsewhere termed

"dilingual discourse" (Saville-Troike, 1987). This communicative strategy is often amazingly successful, as the examples illustrate, particularly when topics of conversation are salient in the immediate environment. This native-language/dilingual phase ends for the most part when children recognize that the language they are speaking is different from the one others are using. For children aged five or above, this awareness comes quickly (within two or three days in an English-speaking setting), but it takes longer for younger children. While I have observed the phenomenon with older children, and even adults, no child in this study who was over five years old was recorded using his or her native language with English speakers. It is at this point of metalinguistic awareness that inner-directed children rather abruptly stop initiating verbal social interaction with speakers of the second language and enter the 'silent' period, which intervenes between Phases I and II.

Children are apparently consciously aware of this transition. S2 was interviewed in Chinese during the 9th week of the study, for instance, and asked why he had suddenly stopped speaking Chinese to the English-speaking nursery school teachers and children. He responded that he knew they spoke a different language and weren't going to learn Chinese. He reported to us that he was learning English, and was going to speak that thereafter. S3 was also interviewed at this point (for her, during the 4th week -- in Japanese), and she said that there was this "English" that people were using and it was too hard, so she had stopped talking to them.

At the start of Phase II, children who have gone through a 'silent' period again initiate verbal interaction with English speakers, but do so only with single words (usually names of objects), memorized routines, or by repeating after other children, as in examples (3) through (5):

3. S5: BATHROOM. (i.e. 'I want to go to the bathroom.')
4. S4: I'M DONE.
5. Child: OK. ALL DONE.
   T: YOU'RE ALL DONE?
   S2: OK. ALL DONE.
   T: YOU'RE ALL DONE TOO?

The rehearsal function of private speech is most clearly evident at this point. When reflective children begin initiating speech in English, they commonly first practice to themselves what they want to say before saying it aloud. This is illustrated in (6) through (9) for S2, S4, and S7. In example (9), for instance, S7 responded privately to the teacher's daily question about the weather for at least a week before he raised his hand and first volunteered an answer. When he finally did, his voice was loud and self-assured.

6. (Children told to draw something they do on a sunny day)
   S2 to Self: SUNNY.
   S2 to T: SUNNY. (Points to his picture)
7. (Children told to find pictures of food items)
   S4 to Self: SEVEN-UP. SEVEN-UP.
   S4 to T: MRS. BARNES? SEVEN-UP.

8. S7 to Self: TRIANGLE, PLEASE. TRIANGLE.
   T to S7: YOSHI, WHAT SHAPE DO YOU WANT?
   S7 to T: TRIANGLE.
9. T to Class: CAN ANYONE TELL US ABOUT THE WEATHER?
   S7 to T: COLD.

Phase III begins when children start generating novel utterances with the English words they have acquired. These are most easily recognizable for their ungrammaticality, as in examples (10) through (12):

10. S2: MY IT'S WRONG.
11. S5: I WANT TO THERE.
12. S7: THIS IS HATS FIRE.

Table II summarizes these phases of second language development. The numbers under each phase of social speech (headed by I, II, III) and the 'silent' period (between phases I and II) represent the weeks when each of the subjects exhibited characteristics of that period, if they did so within the time frame of the study.

TABLE II
PHASES OF SECOND LANGUAGE DEVELOPMENT

Ss	Phase I	Silent	Phase II	Phase III
S1	1-11	12-23	24+	--
S2	1-8	9-14	15-17	18+
S3	1-3	4+	--	--
S4	--	1-10	11+	--
S5	1	--	1	2+
S6	--	--	1	2+
S7	1	1-8	9-10	11+
S8	--	--	1	2+
S9	--	1-5	6-9	10+

As defined on the basis of this study, the 'silent' period is not necessarily one of categorical silence, but its onset is marked by a dramatic drop in language directed to speakers of the second language. This is not to say that the children actually withdraw from social engagement, since all of the 'silent' subjects continued to interact at least nonverbally with English speakers (and verbally with their native-language peers). However, as indicated previously, during this period the children were seldom if ever found to initiate a verbal exchange with an English speaker, though some were willing at times to respond minimally to a direct question (usually with "yes" or "no"), or to identify or repeat the name of an object if an adult explicitly directed them to do so.

S1 and S4, for example, virtually refused to speak at all to English-speaking adults or children for several weeks; they responded to questions only by nodding or shaking their heads, or by turning away from whoever addressed them. S3's behavior with her kindergarten teacher was similar, and she even turned her back on the teacher when attention was demanded. She did vocalize with English-speaking peers, but made little use of language after she gave up on using Japanese with them. The following exchange (13) is an illustration of the type

of pseudo-conversation she engaged in:

13. S3: GIUK GIUK. GIUK.
GIUK GIUK GIUK. GIUK GIUK GIUK. GIUK GIUK GIUK.
GIUK GIUK GIUK. GIUK GIUK GIUK. GIUK GIUK GIUK.
ONE, TWO, THREE.
Child: HUP, TWO, THREE, FOUR.
S3: WHACKO WHACKO WHACKO UM. WHACKO WHACKO WHACKO UM.
WHACKO.

The other 'silent' children continued to respond to teachers' questions at least some of the time during this period, and to repeat words or phrases when they were directed to, but their verbalization was highly restricted. To illustrate the relative drop in production this represents, Table III contrasts the number of utterances, total number of words (i.e., tokens), and number of different English words that S2 directed to English speakers during Phase I versus the 'silent' period (excluding utterances which consisted only of the names of letters or numbers).

TABLE III
S2'S PRODUCTION TO ENGLISH SPEAKERS

Phase:	I	'Silent'				II	
Week Number:	6	9	11	12	13	15	17
Utterances:	238	33	35	43	18	67	74
Total words:	1,180*	46	51**	49	26	116	144
Dif. L2 words:	17	17	12	6	13	30	45

*1,126 Chinese words
**16 Chinese words

Each of the nursery school sessions lasted for three hours. In the 6th week S2's total production of 1,180 words included 54 in English, while of the other weeks listed, only one exchange with English speakers (during the 11th week) contained any Chinese. In the 12th week figures, the total of 49 words spoken involved only 6 different lexical items, and included 32 occurrences of "no" and 8 of "yes" (65.3% and 16.4%, respectively, of the total).

The following dilingual exchange (14) occurred in the 11th week. It provides evidence of the frustration children may face as they recognize their linguistic limitations, and suggests one possible motivation for the lapse in social speech.

14. S2: WOMEN YAO TAO MING YINWEI YOU YIZHI KOU ZHUI WOMEN.
('We must flee for our life because there was a dog chasing us.')
T: WHAT? I DIDN'T HEAR YOU.
S2: YINGWEN.
('English.')
DARG.
DOG.
T: HUH? WHAT?
S2: DOG.
T: WHAT?

S2 made this one last attempt to communicate with an English speaker in Chinese in his excitement over an imaginary chase. He then switched to English, and was restricted to trying to express himself with a single word, "dog". Because of his deviant pronunciation, the teacher did not even comprehend that. It was four more weeks before he again tried to initiate an exchange with an English speaker.

Immediate repetition of something said by another was common in the private speech of subjects of all ages, but differences in what was selected for repetition indicates differences in their scope and focus of attention. The youngest children generally adhered to the principle of paying attention to the word or phrase at the end of an utterance (Slobin, 1973), including the final intonation contour. Three year old S1 was limited to repeating only the last word of whatever was said, as in (15) and (16), while four year old S2 often repeated phrases or complete sentences, as in (17) and (18).

15. Child: I WANT YOU TO RIDE THE BIKE.
    S1: BIKE.
16. T: I NEED YOU TO WALK?
    S1: WALK? WALK? WALK? WALK?
17. T: YOU NEED TO BE DOWN HERE AND WAITING TOO.
    S2: WAITING TOO.
18. T: WHAT'S HAPPENED THERE.
    S2: WHAT'S HAPPENED THERE.

Example (19) is particularly interesting, since S2 was playing with his back to three other children, and repeated quietly to himself what each of them said in turn.

19. Child 1: POOTY.
    S2: POOTY.
    Child 2: POOTY?
    S2: POOTY?
    Child 3: HEY, LOOK.
    S2: HEY, LOOK.
    Child 2: WHAT ARE YOU DOING?
    S2: WHAT ARE YOU DOING?

S2 also repeated medial phrases if they occurred before prepositional or conjoined phrases, as in (20) and (21), and he sometimes repeated stressed words from a sentence in a type of telegraphic speech, as in (22).

20. T: TAKE ONE SCOOT TOWARD ME.
    S2: ONE SCOOT.
21. T: DO YOU THINK YOU COULD STAND UP AND PRETEND YOU'RE A CHOIR?
    S2: STAND UP.
22. Child: IT PUTS THAT THING AND RIP IT OUT.
    S2: PUT OUT THING. PUT OUT.

Older children were more likely to repeat the topic of a sentence, as in (23), or to repeat words or phrases which were most salient to the point of a lesson. Example (24) was uttered during a lesson on color terms, for instance.

23. T: SQUIRRELS LIKE TO EAT THESE, DON'T THEY?
    S7: QUIRRL.

24. T: TAKE OUT THE PINK CARDS.
S9: PINK.

Use of English words by S1 and S2 began before they entered the 'silent' period, while they were still speaking Chinese to English speaking teachers and peers, in the form of incorporating a few English words (e.g., "Macdonalds", "cheeseburger", "stop sign") in their Chinese utterances. There is evidence, however, that actual repetition did not begin until they became consciously aware that others around them were speaking a different language. For S2, the moment of awareness serendipitously occurred on a day he was being videotaped. He was playing near the teacher, who was talking to another child. S2 suddenly looked quite startled and broke into their conversation, as represented in (25).

25. T to Child: PATRICK, DO YOU LIKE THE BIKE WITH THE RED SEAT BETTER THAN THE BIKE WITH THE WOODEN SEAT?
S2 to T: NI DZAI SHUO SHENME A?
('What are you saying?')
NI DZAI DZUO SHENME?
('What are you doing?')

This event took place during the fourth week of his exposure to English; there is no instance of S2 repeating words either aloud or to himself during the 9 hours, 24 minutes of recording which precedes it, but he began repeating English words to himself immediately thereafter and continued to do so for the remainder of the study.

That speaking English was an intentional and meaningful act for S2 is further illustrated in (26), which occurred later on the same day. Right after saying "stop sign" to himself, he reported it as news to the teacher.

26. S2 to T: WO GANG GANG SHUO "STOP SIGN".
('I just now said "stop sign".')

It is also notable, however, that although four-year-old S2 recognized at this point the existence of a different language, it would be several more weeks before he appeared to realize that those who spoke that language could not understand Chinese. That realization would mark the beginning of his silence.

Even the youngest children in this sample were clearly comprehending the denotational meaning of much of what they attended to. Evidence for this is found in their recall of English words and phrases in relation to appropriate objects, actions, or situations, as in (27) through (29).

27. S1: (Finished using bathroom) I DONE.
28. S1: (Jumping on mattress) UP AND DOWN.
29. S2: (Opens door and goes in storage room)
OPEN. DARK.
IN THE DARK, DARK, DARK. IN THE DARK.

Also, they frequently integrated English words or phrases into longer meaningful sequences, as in (30) and (31). In these dual-language examples, the words in upper case letters were uttered in English, while those in lower case are glosses of what was said in the native language.

30. Child: COOKIE.
    S1: COOKIE.
        Put a COOKIE inside.
31. S2: (Driving around on tricycle)
        Go to SKYSCRAPER CHICAGO.

Example (32) shows that S1 incorporated English words even when he knew the lexical item in Chinese, and his dual-language pairings suggest he was equating their meaning. There is also evidence for his consciousness of the meaning of English terms in questions that he asked himself in Chinese, such as (33).

32. S1: (Watching another child who is crying)
        LOOK? LET'S STOP? STOP? STOP? STOP? STOP?
        Stop.
        STOP?
        Don't cry.
33. T: WOULD YOU LIKE MORE PEANUTS?
    S1: PEANUTS? That's peanuts?

S2 also asked reflective questions, as in (34). He often provided an explicit translation to himself, or in social speech to S1 or to Eva (another Chinese-speaking child) as he taught them English words he had learned, as in (35) and (36).

34. Child: THIS IS TOO BIG. (Referring to a peg)
    S2: Is this big? (Referring to a peg he has)
35. S2: AIRPLANE SKY. (Points at airplane overhead)
    S2 to S1: Look. Airplane.
        There is an airplane in the sky.
36. S2 to S1: EXIT is exit. This is called exit.

S2 apparently recognized when he did or did not understand what someone else said, as (37) and (38) indicate.

37. T: JUST A MINUTE.
    S2 to Eva: How come she said wait a moment?
38. S2: His English is too difficult for me.

Meaningful recall in the absence of immediate auditory stimuli was often triggered by familiar objects and events they re-experienced, and aided by the children's developing scripts for what an English speaker was likely to say within a sequence of events. For instance, S1 often said "Clean up time" after a block of time had been spent in a single activity, and S2 said "Good job" when he washed his hands after using the toilet alone (which is how the teacher evaluated that act when she was in the bathroom with him).

In spite of the fact S1 and S2 attended to meaning, however, meaningfulness was not a necessary condition for repetition and recall. Both boys were skilled in constructing imaginative private narratives in a combination of Chinese and English which made little referential sense, as in (39) through (41).

39. S1: This is A D PIVE. This is big X, Z, X, Y.
        (Digging in dirt; no letters or numbers visible)
40. S1: DARK. ONE OUNCE. ONE OUNCE.
        ELEVEN OUNCE. THREE OUNCE. ONE ONE OUNCE.
        Hasn't come out yet.
        TWO OUNCE. TWO OUNCE.

ONE OUNCE hasn't come out yet. Then come out.
ONE OUNCE. ONE OUNCE. ONE OUNCE. ONE OUNCE.

41. S2: The middle part is the NO PARKING zone.
Then he wrote B, L, M, O, P.
BATHROOM. Being turned over.
THE END.

Most of the time, in fact, recall for S1 and S2 occurred quite apart from any visible or audible stimulus. Usually they recalled words and phrases for which they knew the meaning, but this was not always the case. Examples (42) through (45) all illustrate this phenomenon. Both children were repeating function words many weeks before there was any indication they could understand or use them appropriately, and they produced many utterances they probably could not comprehend, such as the "Are you awesome?" and "Hell, hell, hell" said by S2. These can only be interpreted as unanalyzed quotations of what they had heard said by someone else.

42. S1: WHAT. (Climbing stairs)
43. S2: WHOSE.
BABE. HI, BABE.
44. S2: UP. UP. UP? HOW DOES. HOW.
D, G, F. HOW.
45. S2: DON'T BOTHER ME. (2x)
YUCKY.
DON'T BOTHER ME. (3x)

The youngest children's production of words and phrases which had no denotational meaning for them must clearly be assigned to the lowest level in the hierarchy of private speech functions, i.e., that of repetition for its own sake. At the same time, however, their recall of English in private speech apart from visible stimuli (whether meaningful to them or not) demonstrates the children's capacity for focusing their attention on the second language in the absence of either perceptual or social/interactional support for doing so (cf. Flavell et al, 1966, for a report of the same competence attributed only to older children).

Just as with young children in the course of first language development (cf. Sanches & Kirshenblatt-Gimblett, 1976), S1 and S2 focused extensively on the sounds of the second language, and seemed to relate to the kinesthetics of pronouncing certain words. High frequency private vocabulary for them included "butter pecan", "parking lot", "skyscraper", and "cookie monster". Both children also demonstrated their attention to sound by creating new words with English phonological structure, including "otraberver", "goch", "treer", and "trumble" -- impossible sequences in their native Mandarin Chinese. The focus on sounds not infrequently led to play, as the boys chanted rhythmically or intoned words to themselves (e.g., examples 46 and 47).

46. S1: JELLY BEAN, JELLY BEAN.
JELLY, JELLY, JELLY, JELLY.
47. S2: YUCKY. YUCKY SCOOP.
SCOOP SCOOP YUCKY SCOOP.
YUCKY YUCKY YUCK-YUCKY.

The older inner-directed learners all sang parts of songs to themselves, like the "ABC Song" or "Happy Birthday to You", but none created play with English language sounds. Interestingly, the more socially-oriented five and six year old children were more like the younger children in this respect. When those who did not go through a 'silent' period used English to themselves, it was often meaningless sound play, as in (48) and (49).

48. S6: HESIN KEESIN MOOPEE.
POOKEE KEESIN KEESIN.
KUPEE HEESIN HE THINK.
CANNOT CANNOT KNOCK.

49. S8: MY ICE CREAM.
O-O-O-O.
O-O-O NO.
NO NO NO NO NO.

We thus find a major contrast in degree of focus on language sound both by age and by learning style. In contrast to the older inner-directed learners, older other-directed learners, to the extent they used private speech at all, rather atavistically engaged primarily in sound play, a characteristic of the younger inner-directed second language learners and of younger first language learners generally.

While language form was clearly not as salient for the youngest children as was sound, it is noteworthy that they did attend to it, at least to some extent. S2's awareness of English morphology is indicated in such chants as (50) and (51), for instance, where he varied word endings, and (52) and (53), which illustrate his manipulation of compound forms.

50. S2: WALKING, WALKING, WALK. WALKING, WALKING, WALK.
(Chanted while walking)

51. S2: QUICK. QUICK, QUICK. QUICKLY. QUICK.

52. S2: BATHROOM. BATH.

53. T: LET'S GO OUTSIDE.
S2: OUT. OUTSIDE.

Both S1 and S2 appeared to be quite serious and intentional in this recall or repetition at times, as they recited substitution patterns, as in (54) and (55).

54. S1: UP. GO.
GO UP, GO DOWN.
GO DOWN, GO UP.
GO UP, GO DOWN.

55. T: YOU GUYS GO BRUSH YOUR TEETH.
AND WIPE YOUR HANDS ON THE TOWEL.
S2: WIPE YOUR HAND. WIPE YOUR TEETH.

S2 also frequently created self-expansions (primarily with reduplication), as in (56) and (57).

56. S2: WHAT'S WRONG. WHAT WHAT'S WHAT'S WRONG.

57. S2: BIG ROAD. THE BIG ROAD.
BIG BIG BIG BIG BIG ROAD ROAD.

At a time when he was still maintaining silence with English speakers, or responding to them in no more than one or two words, S2 was already

constructing unique sentences like (58) and (59) in his private speech. His ability to produce English was clearly well ahead of his overt social production.

58. S2: MINE IS LET'S GO. (i.e. 'I will leave')
59. S2: MY IT'S GO HOUSE IN.
(i.e. 'I am going into the house')

In contrast, even when S1 resumed social speech near the end of the six months under study, he was still limited to memorized routines, or to substitutions in a frame provided by others, as in (60). In the developmental scheme proposed here, he had only reached Phase II.

60. Child to S1: HOW OLD ARE YOU?
S1 to Child: THREE OLD ARE YOU.

The older children in this sample whom I have identified as reflective, or inner-directed in their learning style, all appeared to focus on second language form, as well as on meaning. This was evidenced most clearly in private pattern drills, such as those in (61) and (62) which were uttered by five-year-old S7. In (61), he was practicing English auxiliaries; his paradigm indicates he had correctly assigned <u>have</u> and <u>am</u> to the same syntactic slot, and recognized the contraction as equivalent. Example (62) represents a "build-up" drill, where S7 practiced adding an object to his predication.

61. S7: I FINISHED.
I HAVE FINISHED.
I AM FINISHED.
I'M FINISHED.
62. S7: I WANT.
I PAPER. PAPER. PAPER.
I WANT PAPER.

Not surprisingly, children were most likely to focus on form when the task they were involved in was directly related to language learning per se. For instance, example (63) illustrates a pattern eight-year-old S9 commonly produced while writing sentences in her language workbook. She first constructed the parts to herself, then named letters as she wrote, and finally repeated the result.

63. S9: I SEE A, ELEPHANT.
E, L, E, P, H, A, N, T.
I SEE A ELEPHANT.
I SEE A ELEPHANT NOSE?
IS IN THE, WATER.
W?
A, T, E, R.
WATER.

It is significant, however, that when S9 worked in her math workbook or commented on other happenings, her private speech was not in English at all, but in Chinese.

Attention to linguistic form requires a relatively high level of cognitive processing from children, including abstraction of form from its meaning to some extent, and recognition of paradigmatic and syntagmatic relationships. It is at this level that private speech appears to be most consciously employed by inner-directed learners as

a tool used in constructing a second language.

Follow-up recordings of three of the children who remained in the United States for school the next year have shown that degree of bilingualism (i.e., relative proficiency in the two languages) may affect the choice of language in private speech. The most extensive information is available on S2, whom we continued to videotape throughout kindergarten (cf. Chen, 1987). By the end of the second year, English was being used for over 75% of his private speech. Because of the short length of time most of the subjects remained in this country, it is not possible to draw conclusions about the relationship of the 'silent' period and its attendant learning strategies to long-range second language development. Further longitudinal research will be needed on this issue.

Perhaps even more important for future research is the finding of different constellations of learning strategies and behaviors making up two distinct learning styles, here labeled "inner-directed" (or reflective) and "other-directed" (or socially-oriented), and the significant differences in quantity and quality of private speech use for second language acquisition by these two types of learners. While the full range of learning strategies is probably available to all children of this age range, pervasive personality factors (e.g., cautious versus risk-taking) and cultural differences in socialization practices may lead to one style of learning being preferred by certain individuals or sociocultural groups. Clearly these differences cannot be ignored if learning processes in children -- and particularly among children from different cultural and linguistic backgrounds -- are to be fully understood.

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